Quick Start Guide

UDM-0404 Endeleo Multi-Format Distribution Hub

Overview

The UDM-0404 Endeleo Multi-format Distribution Hub (FG-UDM-0404) delivers any video source, including Component, RGB, VGA and S-Video to a virtually unlimited number of display devices. The UDM-0404 (FIG. 1) supports 4 high-resolution input ports and 4 UDM output ports, and supports multiple methods of delivering sync information between the UDM hub and the display device, including common mode.

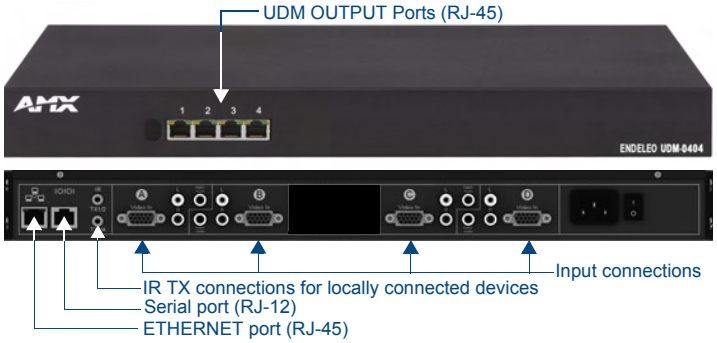

FIG. 1 UDM-0404

In total, the UDM-0404 system can distribute any combination of the following: 4 RGBHV sources, 4 Component video sources, 4 S-Video sources or 12 Composite video sources. Source inputs to the UDM are industry standard VGA, Composite, Component or S-Video feed, and output is presented as an RJ45 port for connection to Cat5, 5e or 6 twisted-pair Ethernet cable.

Video inputs are connected via the HD15 Input connector on the rear of the UDM. Adapters are used to bring the different types of video source into the UDM.

Each UDM has an Ethernet network port to provide connectivity to a central management system, or can be controlled by the onboard configuration pages. A Serial connection is also provided for CLI administration and diagnostic purposes.

Features

- 4 multi-format inputs x 4 outputs
- Supports multiple methods of delivering sync, including Common Mode Sync
- Digital audio support
- Central device control
- 1U rack-mounting

Compatibility

The UDM-0404 is compatible for use with UDM-RX01 (FG-UDM-RX01) and UDM-RX02 (FG-UDM-RX02) Receivers.

***Note**: Common Mode Sync delivery is supported only on the UDM-RX02.*

Product Specifications

UDM-0404 Specifications	
Power Requirements:	3 PIN IEC, 90-264v AC140 W
Network Interface:	10baseT
Serial Interface:	9600, 8, N, 1
Max Video Input:	• 4 x RGBHV (or) • 4 x S-Video (or) • 12 x CVBS
Electrical:	RJ-45 indicating power to receiver and link status.
Operating Environment:	• 35°F - 95°F (5°C - 35°C) • Max. relative humidity - 85% (non-condensing)
Dimensions (HWD):	1 3/4" x 19" x 12 1/2" (45 mm x 440 mm x 320 mm)
Weight:	8.8 lb. (4 Kg)
Certifications:	• CE/UL/FCC part 15 Class A
Included Accessories:	• IEC power cord • 6' Ethernet Crossover Cable • 19" mounting brackets • RS232 DB9/RJ12 Connection Cable (FG-RS01) • IR03 External Infrared Receiver Module (FG-IR03) • UDM-RC10 IR Engineering Remote Control (FG-UDM-RC10) ***Note**: No A/V interface cables supplied.*
Other AMX Equipment:	• HD15 to S-Video Cable (FG-UDM-SVID01) • HD15 to 3x RCA Breakout Cable (FG-HD15RCA3) • RS232 DB9/RJ12 Connection Cable (FG-RS01) • UDM-RX01 Multi-Format Receiver (FG-UDM-RX01) • UDM-RX02 Multi-Format Receiver (FG-UDM-RX02) • IR01 IR Emitter Module (FG-IR01) • IR02 IR Splitter Cable (FG-IR02) • IR03 External IR Receiver Module (FG-IR03)

Audio & Video Formats/Resolutions/Distance

Audio & Video Formats/Resolutions/Distance				
Class	**Format**	**Name**	**UDM-RX01**	**UDM-RX02**
Composite	720x480	NTSC	300 m / 1000'	300 m / 1000'
	720x756	PAL	300 m / 1000'	300 m / 1000'
Component	720x480	480p	300 m / 1000'	300 m / 1000'
	720x756	576p	300 m / 1000'	300 m / 1000'
	1280x720	720p	200 m / 650'	300 m / 1000'
	1920x1080	1080i	150 m / 500'	300 m / 1000'
	1920x1080	1080p	120 m / 400'	300 m / 1000'
VGA	640x480	VGA	200 m / 650'	300 m / 1000' *
	800x600	SVGA	200 m / 650'	300 m / 1000' *
	1024x768	XGA	200 m / 650'	300 m / 1000' *
	1280x1024	SXGA	150 m / 500'	300 m / 1000' *
	1600x1200	UXGA	120 m / 400'	300 m / 1000' *
	** When using VGA modes **with audio enabled**, the maximum cable distance is approximately 200 m / 650' (UDM-RX02).*			

***Note**: The maximum distances indicated above are not absolute, but are recommended distances that have been tested to deliver video at the specified resolutions, without significant signal degradation. In particular, lower resolutions (640 x 480, 720 x 480 and 800 x 600) can often be delivered significantly further than what is indicated in the table. Refer to the UDM-0404 Endeleo Multi-format Distribution Hub Operation/Reference Guide for additional details on maximum cable distances.*

A/V Source Input Connectors

There are 4 sets of input connectors to the rear panel of the UDM-0404, labelled A-D (see FIG. 1) that allow the UDM-0404 to connect to A/V source devices.

Connecting a VGA Video Input

1. Connect one end of a VGA cable to the source device's VGA output port.
2. Attach the other end of the cable to the appropriate VIDEO IN connection on the UDM. For example, connect to the Video In connection on Input A of the Hub.
3. Connect any audio to the analog (RCA) audio connectors or digital (SPDIF) connector.

***Note**: Ensure Input A is configured as a "VGA Input" and named appropriately within the "Inputs" section of the Configuration software. Also ensure the correct Audio Type (Analog L/R or S/PDIF) is selected for the relevant input.*

Connecting a Composite Video Input

1. Connect the UDM-HD15RCA3 Breakout Cable (FG-HD15RCA3, not included) to the source device's Composite output ports:
   •A1 = red RCA
   •A2 = green RCA
   •A3 = blue RCA
2. Attach the other end of the cable to the appropriate VIDEO IN connection on the UDM.
3. Connect any audio to the analog (RCA) audio connectors or digital (SPDIF) connector.

Connecting a Component Video Input

1. Connect the UDM-HD15RCA3 Breakout Cable (FG-HD15RCA3, not included) to the video source device's Component video output connectors (Red, Green and Blue).
2. Attach the other end of the cable to the appropriate VIDEO IN connection on the UDM.
3. Connect any audio to the analog (RCA) audio connectors or digital (SPDIF) connector.

Connecting an S-Video Input

1. Connect the UDM-SVID01 HD-15 to SVideo cable (FG-UDM-SVID01, not included) to the video source's S-Video connection.
2. Attach the other end of the cable to the appropriate VIDEO IN connection on the UDM.
3. Connect any audio to the analog (RCA) audio connectors or digital (SPDIF) connector.

Device Connectivity (IR TX1/2 and TX3/4 Ports)

A maximum of 4 Devices such as DVD players or VCRs can be connected to the UDM Hub and controlled through the Browser software or via a remote control. An (optional) IR02 IR splitter cable (FG-IR02) may be required.

1. Connect an Endeleo IR Emitter Module (FG-IR01) to the relevant IRTX port at the rear of the Hub.
2. Run the other end of the IR Emitter to the device's IR sensor and attach the bud to the device's sensor by removing the cover of the reverse side of the bud.

IR commands for each device on the system have to be learned by the Hub in order to function properly. Refer to the Protocols and IR section of the *UDM-0404 Operation/ Reference Guide* on how to learn a device's IR commands.

Connecting UDM RX01/RX02 Receivers to the UDM-0404

1. Connect a standard Cat5/6 cable to the port marked *UDM* on the UDM Hub.
2. Connect the other end of the Cat5/6 cable to the "UDM Hub" port on the UDM-RX01 or RX02 Receiver.
3. When the power is switched on 2 LEDs will be visible at the Hub port – Amber (*phantom power enabled*) and Green (UDM receiver connected to Hub port).

Configuration Overview

Each UDM Hub can be configured for the correct network environment. It is also possible to configure each Hub for the correct date and time. Configuration options are available via the UDM Hub's built-in Browser Interface.

Refer to the *UDM-0404 Endeleo Multi-Format Distribution Hub Operation/Reference Guide* for information on input configuration, user control, passthrough mode, video compensation, date/time configuration, creating scheduled events and scheduled presets.

Connecting to the UDM-0404

1. With the TCP/IP address configured, connect the UDM-0404 to your network equipment (switch, hub, or serial port) - or if required use an Ethernet Cross-over cable to connect your PC directly.
2. Enter the IP address into the address field within a browser window.
   The default IP address of the UDM-0404 is **192.168.0.96**.
3. To connect to the UDM-0404, a password is required (FIG. 2).

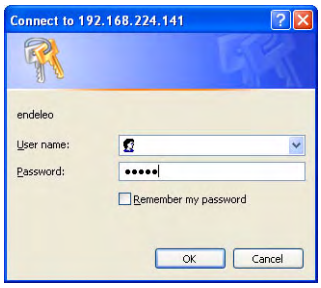

FIG. 2 Endeleo Login screen

   - •The username should be left *blank*.
   - •The password is **admin**.
   - •*The password is case sensitive.*
4. On initial connection, the **Status** page is displayed.

Network Configuration

Hubs can be configured for the network environment using the *Setup* page.

***Note**: The UDM-0404 does not support DHCP. Always configure a static IP Address.*

1. Specify the following network options for the Hub:
   a. Hub IP Address, Subnet Mask and Default Gateway;
   b. UDP Port (default = **2008**)
   c. Hub name (maximum of 30 characters).
2. Click on **Update** to save the new settings to the Hub (FIG. 3).

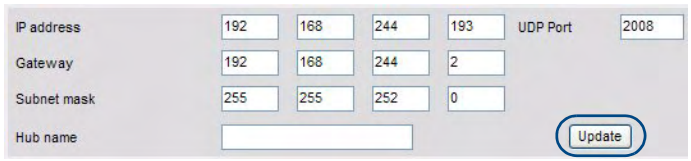

FIG. 3 Network Settings

***Note**: All changes are immediate - once the IP address of the hub has been changed redirect the web browser to the changed address.*

Restoring Hub Configuration and Connections on Power Up

To ensure the configuration settings for the Hub are retained each time the hub boots, ensure the *Restore configuration on power up* and *Restore connections on power up* options (at the bottom of the *Setup* page) have been enabled (FIG. 4).

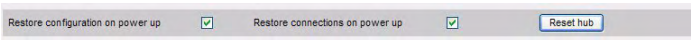

FIG. 4 Restoring configuration on power up

***Note**: Failure to select the Restore Configuration and Connection options will mean the Hub configuration and connections will need to be re-configured if the Hub is reset.*

Hub Reset

To reset the Hub, Click the **Reset Hub** button (FIG. 4).

***Note**: A power down of the Hub is required to complete the reset procedure.*

Input Configuration

The options on the *Inputs* page allow you to specify the video types and audio sources being presented to each input port and where appropriate renaming these.

1. Select the **Inputs** link at the top of the *Status* page to invoke the *Input Configuration* page (FIG. 5).

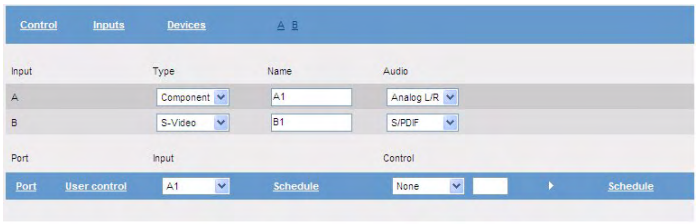

FIG. 5 Input Configuration page

2. Use the *Type* drop-down menus to select the appropriate Input **Type** for each input).
   - •For VGA, Component, S-Video, and Composite inputs, only one connection is possible per input port.
   - •If the Input Type is *Composite*, then the screen will refresh and enable the administrator to name each of the 3 available composite sources separately.
3. **Name** the input *Type(s)* appropriately.

Configuring Audio Types For Inputs

Audio types (Analog L/R or S/PDIF) can be configured for each Input. To configure audio for individual Inputs;

1. Select the **Inputs** option from the available options at the top of the *Status* page.
2. Select the appropriate **Audio** type *Analog L/R* or *S/PDIF*.
   - •If "Composite" is selected as the Input type, only one audio source will be available.
   - •Ensure audio has been connected from the Input to the rear of the hub. Ensure the connections are sound and fixed correctly.

Naming Ports

The Status option displays the currently connected sources (what source each display is showing). Click the **Status** option. For each of the 16 ports, click the **Port Name** hyperlink and define the port name. e.g. Reception, Lobby, etc.

Calibrating and Compensating Receive Units

Each Receive unit must be compensated for distance (Brightness, Sharpness) and skew (R, G, B) depending on the length and type of UTP cable (Cat5, Cat5e, Cat6) being used.

1. Connect a known good source (input) to all ports. Click the **Include All** link on the Status page - this will highlight all 4 port lines in blue.
2. On the top dark grey "*Included*" bar select a source to connect to by selecting a *Source Name* from the drop down list. If you have a VGA source select this source.
3. Click the **Execute** link and all displays will now display the selected source.
4. Depending on the calibration of the Receive Module, the image may appear dim/bright, sharp/fuzzy or possibly not at all.
5. From the Status page click the **Port Name** hyperlink, and then click the **Advanced** checkbox. *Brightness*, *Sharpness* and *R*, *G* and *B skew delays* can be adjusted manually.
6. In this screen Sync handling capabilities can also be adjusted. By default, Common Mode Sync delivery is the default. Define as *Auto* if you don't know but if no image appears you may need to select **Sync on Green**.
7. Adjust *Brightness* until you can see a bright image and *Sharpness* to focus the image correctly. Values can be changed by either using the **Up** and **Down** buttons, or by typing the value (0-255) in the editable text box.
8. Then adjust Red, Green and Blue Skew settings (click **Red** link and the Blue setting will appear, click **Blue** and the Green setting will appear and click **Green** and the Red setting will reappear). Each radio button corresponds to a 4ns (nano-second) delay.
9. Repeat this display setup for each active screen connected to the UDM.

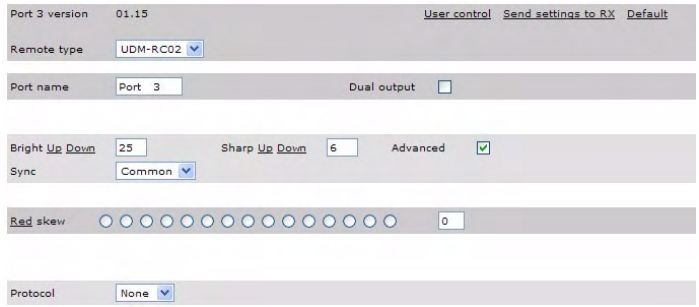

FIG. 6 Calibrating and Compensating Receive Units

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